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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,386	08/01/2003	David C. Steere	50037.189US01	4142

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EXAMINER	
THAI, TUAN V	

ART UNIT	PAPER NUMBER
2186	

DATE MAILED: 12/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/632,386	STEERE ET AL.	
	Examiner	Art Unit	
	Tuan V. Thai	2186	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/15/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Part III DETAILED ACTION

Specification

1. This office action responsive to communication filed 12/15/2004. Claims 1-35 are presented for examination.

2. Applicant is reminded of the duty to fully disclose information under 37 CFR 1.56.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 29-33 are rejected under 35 U.S.C. § 102(e) as being anticipated by Kawamoto et al. (USPN: 6,640,286); hereinafter Kawamoto.

As per claim 29, Kawamoto discloses the invention as claimed including a system for managing data with a cache comprises a processor (e.g. see figure 1, CPU 1-1, 1-2); a memory into which a plurality of instructions are loaded is taught as cache memory unit 3 (e.g. see column 4, lines 63 et seq.) wherein the instruction performing a method comprises determining a weight for each of a plurality of objects/lines stored in a cache (e.g. see column 2, lines 14 et seq.); determining a rank/priority for each of the plurality of objects based on the weight (e.g. see column 2, lines 26 et seq.); storing a rank for each of the plurality of objects (e.g. see column 2, lines 45 et seq.); and deleting a low priority object from within the cache, the low priority object having the lowest rank among the plurality of objects is equivalent taught as retaining the cache lines with higher priority (evicting or removing the cache lines with lower priority utilizing LRU scheme) to increase hit rate (e.g. see column 2, lines 28 et seq.; column 12, lines 61 et seq.).

As per claim 30, the further limitation of deleting/replacing a low priority object/line from within the cache is based on a LRU replacement scheme (e.g. see column 11, lines 45-50; column 12, lines 61 et seq.);

As per claim 31, wherein determining the weight is based on at least two factors, for example, LRU policy or L(DG)>2; and including applying an adjustment for each of a plurality of

factors associated with the object/line (e.g. see column 11, lines 45-50 and lines 63 et seq.);

As per claims 32 and 33, wherein the adjustment for each of the plurality of factors and the relative importance of the plurality of factors is obtained from a policy (e.g. see column 12, lines 17 et seq.);

As per claim 34, it encompasses the same scope of invention as to that of claim 29, the claim is therefore rejected for the same reasons as being set forth above; in addition, it should be noted that the further limitation of the weight being based on at least two factors and indicating that the object is the least importance object in the cache is equivalent taught by Kawamoto as the deleting/replacing a low priority object/line from within the cache is based on a LRU replacement scheme (e.g. see column 11, lines 45-50; column 12, lines 61 et seq.); or L(DG)>2; and wherein the least two factors are obtained from a policy that lists the at least two factors (e.g. see column 7, lines 10 et seq.);

Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-6, 8-17, 19-26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawamoto et al. (USPN: 6,640,286); hereinafter Kawamoto.

As per claim 1, Kawamoto discloses the invention as claimed including a method that manages data within a cache, the method comprises determining a weight for each of a plurality of objects/lines stored in a cache (e.g. see column 2, lines 14 et seq.); determining a rank/priority for each of the plurality of objects based on the weight (e.g. see column 2, lines 26 et seq.); storing a rank for each of the plurality of objects (e.g. see column 2, lines 45 et seq.); and deleting a low priority object from within the cache, the low priority object having the lowest rank among the plurality of objects is equivalent taught as retaining the cache lines with higher priority (evicting or removing the cache lines with lower priority utilizing LRU scheme) to increase hit rate (e.g. see column 2, lines 28 et seq.; column 12, lines 61 et seq.). Kawamoto discloses the invention as claimed, Kawamoto however does not particularly disclose a computer-readable medium of instructions to be

implemented on a computer as being claimed. However, one of ordinary skill in the art would have recognized that computer readable medium (i.e., floppy, cd-rom, etc.) carrying computer-executable instructions for implementing a method, because it would facilitate the transporting and installing of the method on other systems, is generally well-known in the art. For example, a copy of the Microsoft Windows operating system can be found on a cd-rom from which Windows can be installed onto other systems, which is a lot easier that running a long cable or hand typing the software onto another system. Accordingly, it would have been obvious to put Mattson's program on a computer readable medium, because it would facilitate the transporting, installing and implementing of Kawamoto's program on other systems.

As per claim 2, the further limitation of deleting/replacing a low priority object/line from within the cache is based on a LRU replacement scheme (e.g. see column 11, lines 45-50; column 12, lines 61 et seq.);

As per claims 3 and 4, wherein determining the weight is based on at least two factors, for example, LRU policy or L(DG)>2; and including applying an adjustment for each of a plurality of factors associated with the object/line (e.g. see column 11, lines 45-50 and lines 63 et seq.);

As per claim 5, wherein the adjustment for each of the plurality of factors is obtained from a policy (e.g. see column

12, lines 17 et seq.);

As per claim 6, Kawamoto discloses his system is operated in a multiprocessor environment (e.g. see figure 1);

As per claim 8, Kawamoto discloses wherein the policy is defined via a user interface (e.g. see column 10, lines 18 et seq.);

As per claim 9, wherein storing the rank comprises storing the weight within a link in a linked list (table) wherein the link being associated with one of the plurality of objects and the link including a reference to the one object that uniquely identifies the one object within the cache (e.g. see column 2, lines 45 et seq.);

As per claims 10 and 11, determining a value for each of at least one factors (Modified, Exclusive, Shared or Invalid), and applying each of the determined values to an absolute value (LRU indicator field) having number of seconds since a pre-determined time (e.g. see column 5, lines 34 et seq.);

As per claim 12, obtaining a policy that describes an adjustment for a plurality of factors (Modified, Exclusive, Shared or Invalid) associated with the objects, the adjustment being used when determining the weight (e.g. see column 28 et seq.);

As per claim 13, wherein the determining the weight is performed whenever the object/cache line is accessed (e.g. see

column 8, lines 15 et seq.; also lines 51 et seq.);

As per claim 14, wherein determining the weight is performed whenever a policy that affects the weight determination is changed (e.g. see column 13, lines 60 et seq.);

As per claims 15 and 24, see arguments with respect to claim 1, noting that the claim encompasses the same scope of invention as to that of claim 1, it is therefore rejected for the same reasons as being set forth above. The further limitation of a queue is equivalently taught by Kawamoto as a table where the table is accessed corresponding to the policy (e.g. see column 14, lines 35 et seq.);

As per claim 16 and 25, wherein the policy defines at least two factors and specifies an adjustment for each of the at least two factors for example, LRU policy or L(DG)>2; and including applying an adjustment for each of a plurality of factors associated with the object/line (e.g. see column 11, lines 45-50 and lines 63 et seq.);

As per claims 17 and 26, Kawamoto discloses his system is operated in a multiprocessor environment (e.g. see figure 1);

As per claims 19 and 28, Kawamoto discloses wherein the policy is defined via a user interface (e.g. see column 10, lines 18 et seq.);

As per claim 20, wherein storing the rank comprises storing the weight within a link in a linked list (table) wherein the

link being associated with one of the plurality of objects and the link including a reference to the one object that uniquely identifies the one object within the cache (e.g. see column 2, lines 45 et seq.);

As per claim 21, Kawamoto discloses deleting the object from another queue that ranks the objects based on another policy (e.g. see column 17, lines 24 et seq.);

As per claim 22, accessing metadata that identifies a location within the cache for the object and that identifies a link associated with the object for each of a plurality of queues (e.g. see column 14, lines 35 et seq.);

As per claim 23, deleting/replacing the object from the plurality of queues based on the link associated with the object for each queue (e.g. see column 15, lines 6 et seq.);

7. Claims 7, 18 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawamoto et al. (6,640,286); hereinafter Kawamoto in view of Ali et al. (2005/0055633); hereinafter Ali.

As per claim 7, Kawamoto discloses the invention as claimed, detailed above with respect to claims 1-6. Kawamoto however does not particularly teach the policy is defined via an XML document. First of all, it should be noted that XML schemas and implementation is notorious old and well-known in the art. Secondly, Ali, in his teaching of method and system for

dynamically creating user interfaces, discloses the implementation of XML schemas and data files are extensible and can be easily modify (e.g. see para. [0072], lines 1 et seq.). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the current invention was made to look into the invention of Ali and to define or to implement the policy via an XML document; by doing so, Ali clearly teach by using XML, it would allow a displayable UI to appear more like a Web page and further allows the incorporation of Web-like controls with which Internet users are already intuitively familiar; in addition, the UI can be rendered with dynamically generated help text, tooltips, and the like; therefore being advantageous.

As per claim 18 and 27, they encompass the same scope of invention as to that of claim 7, the claims are therefore rejected for the same reasons as being set forth above.

Conclusion

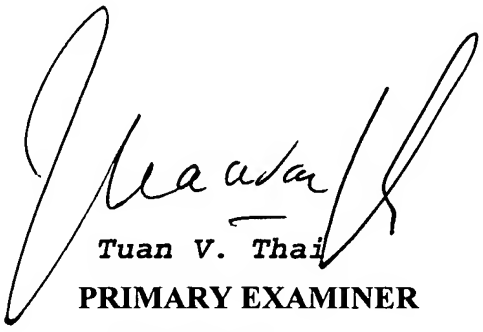
8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan V. Thai whose telephone number is (571)-272-41287. The examiner can

normally be reached from 6:30 A.M. to 4:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mathew M. Kim can be reached on (571)-272-4182. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TVT/November 23, 2005



Tuan V. Thai
PRIMARY EXAMINER
Group 2100